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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,551	12/04/2003	Du-Soung Kim	P24629	5493
7055	7590	08/05/2005	EXAMINER	
GREENBLUM & BERNSTEIN, P.L.C. 1950 ROLAND CLARKE PLACE RESTON, VA 20191			NGUYEN, CAM N	
			ART UNIT	PAPER NUMBER
			1754	
DATE MAILED: 08/05/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/726,551

**Applicant(s)**

KIM ET AL.

**Examiner**

Cam N. Nguyen

**Art Unit**

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 04 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on originally filed is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>March 18, 2004</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### **Claim Objections**

1. Claims 1-18 are objected to because of the following informalities:
  - A. In claim 1, line 2, "any metal from 6A family" should be deleted and replaced thereof with --a metal chosen from Group 6A metals--.
  - B. In claims 1-18, last line, it is suggested that applicants delete the phrase "useful to remove the aromatic halogenated compounds comprising dioxin, carbon monoxide and nitrogen oxides simultaneously" because it is too wordy and a repetition of what was already claimed in claim 1.
  - C. In claims 11 & 12, line 1, "6A metal" should be changed to --Group 6A metals--.Appropriate correction is required.

### **Claim Rejections - 35 USC § 112 (Second Paragraph)**

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
  - A. Regarding claim 1, the phrase "0.1 to 10% by weight of Ag in 70 to 99% by weight of titania" is unclear as what applicants intend. Thus, renders the claim vague and indefinite.

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B. Regarding claims 6 & 13-14, the proper Markush terminology is --said Ag is any one selected from a group consisting of silver nitrate, silver chloride, silver sulfate *and combinations* thereof--.

C. Regarding claims 6 & 13-14, it is unclear as to whether the claimed silver salt compounds as required is contained in the final catalyst composition or is used to make the catalyst during the process of making it. Thus, renders the claim vague and indefinite.

**Claim Rejections - 35 USC § 102(b)**

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1 & 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Goehre et al., "hereinafter Goehre", (US Pat. 3,464,930).

Goehre discloses a catalyst containing vanadium and titanium for the oxidation of aromatic hydrocarbons or unsaturated aliphatic hydrocarbons into carboxylic acids or carboxylic acid anhydrides, said catalyst comprising an inert nonporous carrier, etc., coated with a layer of a composition which consists essentially of 1 to 15% by weight of vanadium pentoxide and 85 to 99% by weight titanium dioxide, etc. (see col. 5- col. 6, claim 1). The catalyst composition also contains at least one oxide of the metals including silver, chromium, molybdenum, and tungsten in an amount of 0.1 to 3% by

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weight with reference to the composition used as coating (see col. 6, claim 5). The carrier is in the form of spheres (see col. 6, claim 7).

The claimed "vanadium", "Group 6A metals", "Ag", and "titania" amounts are met by the teachings of the reference because they fall within the disclosed ranges (see above).

**Claim Rejections - 35 USC § 102(b)/103**

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-3, 6, 8, 11-14, & 17-18 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Goehre et al., "hereinafter Goehre", (US Pat. 3,464,930).

Goehre discloses a catalyst composition as described above, except for the following differences.

Product-by-process limitations in the claims are noted. While they are not disregarded, they have no bearing on the patentability of the claimed catalyst because it has been held that the patentability of the product and its method of production are separately determined. Even though the disclosed catalyst is not made by the same process, i.e., process steps, materials, conditions, etc., the catalyst made is the same as the claimed catalyst. See *In re Thorpe*, 227 USPQ 964 (Fed. Cir. 1985); *In re Brown*, 173 USPQ 688, 688 (CCPA 1977); *In re Fessman*, 180 USPQ 324, 326 (CCPA 1977). See also *MPEP* 2113.

**Claim Rejections - 35 USC § 103**

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 4, 7, 9-10, & 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goehre et al., "hereinafter Goehre", (US Pat. 3,464,930), as applied to claims 1 & 5 above, and further in view of Heidemann et al., "hereinafter Heidemann", (US Pat. 6,700,000 B1).

Goehre discloses a catalyst composition, except for the following differences.

Regarding claims 4 & 9-10, Goehre is silent with respect to the crystal structure

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of the titania. However, it is considered the claimed titania materials are conventional and known as useful catalyst support to make catalyst, as evidenced by Heidemann (see Heidemann at col. 11, claim 1).

Regarding claims 7 & 15-16, while Goehre does not disclose supporting the catalyst by a structure, i.e., ceramic honeycomb, etc., it considered ceramic honeycombs are a well known and conventional support material for supporting catalysts. Thus, it would have been *prima facie obvious* to one of ordinary skill in the art at the time the invention was made to have incorporated such known ceramic honeycomb into the catalyst of Goehre to achieve a stable catalyst and having improved in mechanical strength.

#### **Citations**

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. All references are cited for related art. See PTO-892 Form attached.

#### **Conclusion**

11. Claims 1-18 are originally pending. Claims 1-18 are rejected. No claims are allowed.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Primary Examiner Cam N Nguyen, whose telephone

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number is 571-272-1357. The examiner can normally be reached on M, W, R, & F, 9:00 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley Silverman, can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nguyen/cnn *CNN*  
August 03, 2005

*Cam Nguyen*  
CAM N. NGUYEN  
PRIMARY EXAMINER  
*AU-1754*